Name of Organization: Wisconsin Department of Natural Resources

Type of Organization: State

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Project Title: Dairy Mercury Manometer Replacement Program

Project Category: Pollution Prevention and Reduction - BNS

Rank by Organization (if applicable): 1

Total Funding Requested ($): 40,000 **Project Duration:** 1 Years

Abstract:

WDNR would like to continue the program to replace mercury manometers used to measure the negative pressure in dairy farm milking systems with a non-mercury gauge. This program was initiated in 1998 with a $40,000 grant from GLNPO and the results of the program to date have shown the number of manometers collected is directly proportional to the amount of funds available. Much of the work of initiating the program can be carried over to the new grant, thus making a high percentage of the grant available for payment to the farmer and assuring a quick implementation of the grant workplan. We have formed a partnership with the University of Wisconsin College of Agriculture and Life Science, The Department of Agriculture, Trade and Consumer Protection's dairy farm sanitation inspectors and the University of Wisconsin County Extension Agents. We have also provided 38 participating dairy equipment service providers with instructions and equipment to remove the mercury manometers from dairy farms and replace them with a non-mercury gauge. This program has received very positive statewide publicity in agriculture publications and strong support from all the partners and participants.

Geographic Areas Affected by the Project

States:

- ☐ Illinois
- ☐ Indiana
- ☐ Michigan
- ☐ Minnesota
- ☐ New York
- ☐ Pennsylvania
- ☒ Wisconsin
- ☐ Ohio

Lakes:

- ☒ Superior
- ☐ Huron
- ☒ Michigan
- ☐ Erie
- ☐ Ontario
- ☐ All Lakes

Geographic Initiatives:

☐ Greater Chicago ☐ NE Ohio ☐ NW Indiana ☐ SE Michigan ☐ Lake St. Clair

Primary Affected Area of Concern: All AOCs

Other Affected Areas of Concern:

For Habitat Projects Only:

Primary Affected Biodiversity Investment Area:

Other Affected Biodiversity Investment Areas:

Problem Statement:

Dairy cow milking systems require a vacuum pump and pipeline to remove and transport milk from the cow's udder to a bulk tank. This system includes a vacuum gauge so that the farmer can monitor line pressure and assure that the system is operating correctly to optimize milking conditions and line sanitation. Mercury manometers have proven to be accurate and reliable but there is now an acceptable nonmercury vacuum gauge with a digital readout available. While there is no direct immediate benefit to the dairy farmer to replace the mercury gauge, our experience with the current grant indicates that a $200.00 rebate is an effective incentive.

We have consulted the people administering similiar programs in Minnesota and based on their results and some very preliminary results from our current grant implementation, we believe that about 10% of dairy farms have mercury manometers. With approximately 6500 farms in the Lake Michigan and Lake Superior Basins there would likely be 650 mercury manometers currently in use. Since each manometer has 12 ounces of mercury the total quantity in use is 485 pounds. Statewide, Wisconsin has 20,000 dairy farms with 2000 manometers holding 1500 pounds of mercury. By the end of year two we will have collected approximately 340 manometers. This project addresses both the reduction in use and reduction in release of the bi-national strategy. The cost per pound of mercury removed from use is estimated to be about $300 which makes this a cost effective project.

Proposed Work Outcome:

We propose to continue the workplan that has been implemented for the current grant. Several hundred brochures have been printed that explain the manometer replacement program to the dairy farmer and how they can participate. In the priority areas, which are the Lake Michigan and Lake Superior drainage basins, these brochures are in the hands of county extension agents for outreach and the Department of Agriculture's dairy farm sanitation inspectors to be left at each farm where they spot a mercury manometer. In the remainder of the state we have not promoted the program in that manner but have found eager participants who found out about it from other sources. The brochures were also distributed to the 38 participating dairy equipment dealers to introduce the program to their regular service customers. Each of these dairy service providers have several numbered certificates that must be completed to verify that they replaced a mercury manometer with a nonmercury gauge and they are then paid $200.00 from the grant. In some situations, such as a farmer going out of the milking business, a

manometer is abandoned and a replacement gauge is not needed. For these situations the dealer completes a removal certificate and is reimbursed $100.00. The dealer transports and stores the mercury manometer at their place of business

until a licensed
hazardous waste hauler picks them up and the mercury is extracted for recycle.
We propose to continue this workplan by printing more numbered certificates. A high percentage of the grant money will be paid out as reimbursement to the dairy farmer. We would like to continue to allow all dairy farmers in the state to be eligible. Since mercury in the environment can evaporate and be deposited in the great lakes by rainfall, it seems that there is a benefit to removing mercury gauges statewide. After the first year of the program, we had many farmers outside the Great Lakes basin that have heard about the program and were waiting for a chance to participate. The second year grant was quickly utilized by farmers on a waiting list and we have started a new waiting list as we seek additional funding.
The manometers removed from farms the first year were picked up at the dealer's place of business by a licensed hazardous waste hauler (Onyx Environmental Services). The pickup was coordinated with our Department of Agriculture and the county's Agriculture clean sweep programs to reduce transportation costs. In the September collection, which did not include the entire grant period, 143 manometers weighing 281 pounds were picked up with more than half of the weight elemental mercury.

Project Milestones:	**Dates:**
Project Start	10/2000
Print & circulate new certificates	10/2000
Ready for reimbursement of certificates	11/2000
Collect manometers from dealers	09/2001
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	/
	/
Project End	09/2001

☐ Project Addresses Environmental Justice

If So, Description of How:

☒ Project Addresses Education/Outreach

If So, Description of How:

One component of the outreach is the brochure that is delivered to the farmer by the milk inspector, the equipment dealer or the agriculture extension agent. This is being done in the target counties that are in the Great Lakes drainage basins. Since the program is quite popular statewide, we have been working off waiting lists for the rest of the state, but we will increase our outreach efforts when the waiting list is depleted. We created a display that was used at a Milking Seminar Conference and we plan to use this display at appropriate dairy farming events or conferences. The agriculture news media has been positive and supportive of the project, such that we routinely get calls from farmers and dealers wanting to join the program. Other states have expressed interest in this project and we have sent them information. A paper highlighting the sucess during the first year was written by Jerry Rodenberg and presented to the Solid Waste Association of North America and the North American Hazardous Materials Management Association's annual convention in Tucson on Nov. 16,1999. Several other states seem interested in launching a similiar project and we would like to keep our project going to demonstrate it's viability over a longer period

Project Budget:

	Federal Share Requested ($)	Applicant's Share ($)
Personnel:	0	1,512
Fringe:	0	569
Travel:	1,000	0
Equipment:	0	0
Supplies:	1,040	0
Contracts:	3,500	0
Construction:	0	0
Other:	34,000	0
Total Direct Costs:	39,540	2,081
Indirect Costs:	460	24
Total:	40,000	2,105
Projected Income:	0	0

Funding by Other Organizations (Names, Amounts, Description of Commitments):

Our pursuit of other funding has not been sucessful. So far it seems that the project does not meet the requirements of other funding grants. We are continuing to seek other funding because at a funding rate of $40,000 per year it will take approximately 10 years to replace all the manometers on Wisconsin's dairy farms. We may have to ask our legislature to include an annual appropiation in the state budget. This is a long term process. We request this grant from GLNPO to keep the project going because an active, sucessful project will generate more interest which should lead to more support.

Description of Collaboration/Community Based Support:

The program is recieving good support from all parts of the agriculture sector and from everyone concerned about mercury in the environment. At the state level it is supported by the University of Wisconsin and the Department of Agriculture, Trade and Consumer Protection. At the county level it is supported by the University of Wisconsin Extension's agriculture agents and the county hazardous waste staff that manage the clean sweep programs. At the local level there are 38 participating dealers and over three hundred dairy farmers that are pleased with the results of the mercury manometer replacement program.